

How are depression and memory loss connected?

April 15 2014, by Nora Hicks

(Medical Xpress)—Past research has long indicated that depression is a big risk factor for memory loss in aging adults. But it is still unclear exactly how the two issues are related and whether there is potential to slow memory loss by fighting depression.

A preliminary study conducted by researchers from the University of Rochester School of Medicine and Dentistry and the School of Nursing, and published in the 42nd edition of *Psychoneuroendocrinology* in April, delves more deeply into the relationship between depression and memory loss, and how this connection may depend on levels of insulin-like growth factor, or IGF-1.

Prior research has shown that IGF-1, a hormone that helps bolster growth, is important for preserving memory, especially among older adults.

The collaborative study found that people with lower cognitive ability were more likely to have had higher [depressive symptoms](#) if they also had low levels of IGF-1. Reversely, participants with high levels of IGF-1 had no link between depressive symptoms and memory.

Senior author Kathi L. Heffner, Ph.D., assistant professor in the School of Medicine and Dentistry's Department of Psychiatry, had originally examined possible associations between IGF-1 and memory in a sample of 94 healthy older adults, but couldn't find strong or consistent evidence.

Heffner then approached the study's lead author Feng (Vankee) Lin, Ph.D, R.N., assistant professor at the School of Nursing, for input because of her expertise in cognitive aging. Lin is a young nurse researcher whose collaborative work focuses on developing multi-model interventions to slow the progression of [cognitive decline](#) in at-risk adults, and reduce their risk of developing dementia and Alzheimer's disease.

"Vankee spearheaded the idea to examine the role of depressive symptoms in these data, which resulted in the interesting link," Heffner said.

The association discovered between memory loss, depression and IGF-1 means that IGF-1 could be a very promising factor in protecting memory, Lin said.

"IGF-1 is currently a hot topic in terms of how it can promote neuroplasticity and slow cognitive decline," Lin said. "Depression, memory and the IGF-1 receptor are all located in a brain region which regulates a lot of complicated cognitive ability. As circulating IGF-1 can pass through the blood-brain barrier, it may work to influence the brain in a protective way."

Lin said more data studies are needed of people with [depression symptoms](#) and those with Alzheimer's disease, but this study opens an important door for further research on the significance of IGF-1 levels in both [memory loss](#) and depression.

"It really makes a lot of sense to further develop this study," Lin said. "If this could be a way to simultaneously tackle depression while preventing cognitive decline it could be a simple intervention to implement."

Heffner said that clinical trials are underway to determine whether

IGF-1 could be an effective therapeutic agent to slow or prevent cognitive decline in people at risk.

"Cognitive decline can also increase risk for depressive symptoms, so if IGF-1 protects people from cognitive decline, this may translate to reduced risk for [depression](#) as well," Heffner said.

More information: Feng Lin, Julie Suhr, Stephanie Diebold, Kathi L. Heffner, "Associations between depressive symptoms and memory deficits vary as a function of insulin-like growth factor (IGF-1) levels in healthy older adults," *Psychoneuroendocrinology*, Volume 42, April 2014, Pages 118-123, ISSN 0306-4530, [dx.doi.org/10.1016/j.psyneuen.2014.01.006](https://doi.org/10.1016/j.psyneuen.2014.01.006).

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